



OFFICE OF  
INSPECTOR  
GENERAL



OFFICE OF  
INSPECTOR  
GENERAL

June 4, 1997

The Honorable Robert E. Rubin  
Secretary of the Treasury

The Honorable Alan Greenspan  
Chairman, Board of Governors  
of the Federal Reserve System

Dear Mr. Secretary and Mr. Chairman:

The roll out of the redesigned \$100 bill, the planned roll out of other denominations, and recent Congressional initiatives related to the U.S. Mint, the Bureau of Engraving and Printing (BEP) and the \$1 coin highlight the importance of the nation's currency design, production, distribution and redemption processes and the role of coinage. By law and through interagency agreements, both the Department of the Treasury (Treasury) and the Federal Reserve System (System) have currency-related responsibilities and both agencies devote significant resources to ensuring the availability and quality of currency. Appendix 1, enclosed herein, summarizes the current responsibilities of the Board of Governors of the Federal Reserve System (the Board), the Federal Reserve Banks, and the BEP.

The Offices of Inspectors General (OIG) of the Board and Treasury recently addressed the status of current issues related to United States currency to judge the benefits of pursuing additional work in this area. This letter report outlines the results of our efforts for your information and attention.

### **New Currency**

The Board and the BEP have developed a strong working relationship which served them well during the roll out of the new \$100 bill. We found that the roll out was well-coordinated, and that issues relative to public acceptance, distribution channels, and inventory management received an appropriate level of attention. The Board and BEP appear to be adopting changes in response to lessons learned from the roll out of the \$100 bill in preparation for the introduction of the new \$50 bill and other denominations. For example, discussions with the vending machine industry revealed that every vending machine that accepts paper money must be refitted each time a new denomination is introduced. In order to minimize the expense to this industry, the Board and BEP are working together to determine if some of the denominations could be introduced simultaneously. This change will take effect with the planned joint introduction of the \$20 and \$10 bills.

Notwithstanding these positive achievements, the recent discovery that a portion of the new \$100 bill has been printed with two security features reversed raises questions about quality control that may warrant further management attention. The error resulted when a paper supplier put a guide notch on the wrong side of the paper. Because of the misplaced notch, BEP personnel improperly inserted the blank paper into the printing presses and the bills were printed incorrectly.

### **Currency Forecasting**

In September 1996, the United States General Accounting Office (GAO) reported that the Los Angeles Branch of the Federal Reserve Bank of San Francisco inaccurately reported its currency activity to the Board of Governors. This inaccurate reporting raised questions about the integrity of the accounting and internal controls. In addition, GAO indicated that they believe the problems in currency reporting are linked to limitations in the design of the cash inventory system, and that the inability to balance cash inventory with the daily balance sheet without forcing the numbers indicates that there could be problems with one or both systems. We reviewed the alleged inaccuracies to determine if they impacted the Board's ability to accurately forecast System currency needs, which could, in turn, affect the accuracy of the annual print order given to BEP. Our analysis indicated that the reviews conducted by the General Auditor of the Federal Reserve Bank of San Francisco, the Board's financial auditors, and Coopers & Lybrand were sufficiently broad in scope and satisfactorily addressed the issues raised by GAO. These reviews found that the inaccurate currency reporting at the branch were isolated clerical errors that have been corrected and that there are no systemic design problems in the currency accounting system that could compromise the reliability and integrity of financial information or currency forecasts.

### **Production and Planning**

Our review of BEP's Washington facility identified some efficiency and planning issues requiring management attention. The layout of the facility, which was originally built to handle hand presses at the turn of the century, requires many additional steps in handling raw materials. Ink is stored off-site and must be shipped over twenty miles to BEP, while paper is stored in the annex building across the street from the main production units. Additional cost in terms of time and manpower must be expended by BEP personnel to place these materials into the production process. Also, a number of the currency processes such as printing and packaging are located on different floors, requiring additional labor to move the work-in-process. Further, finished products are stored in several vaults located on different floors because the staging vault used to prepare the weekly orders for shipment is too small to store all finished currency. Even with the finished currency being stored in several locations, the minimal space in the staging area requires vault personnel to stock the pallets in the aisles. When currency is requested from another vault or even another location within the staging vault, it can require the movement of several pallets.

Discussions with BEP officials indicated that the Ft. Worth facility may be under utilized. Currently, the Ft. Worth facility operates at two-thirds of its production capacity even though it is designed more efficiently and has better production equipment than the Washington facility. For instance, the Ft. Worth facility has a linear design layout which allows adequate space for storage of raw materials, production equipment, and finished goods. Additionally, the Ft. Worth facility has new presses (I-10s) which are faster than the presses (I-8s) in use at the Washington facility. The Ft. Worth facility can also produce more notes per shift than the Washington facility with less equipment and manpower. However, we noted that Ft. Worth receives only 40 percent of BEP's work.

We also identified a need to improve BEP's planning process. For example, approximately \$50 million in new equipment is scheduled to be sent to storage after it has been tested. This equipment, which was originally designated for the Washington facility, consists of four I-10 presses and three currency overprinting and packaging machines. The equipment is being sent to storage because the Washington facility would require extensive renovation in order for the equipment to be installed. We were informed that this equipment will be stored until a Treasury Department Study Team completes their recently initiated review of this issue. The Study Team, with advice and assistance from a contractor, will perform a complete analysis within three months in order to make a recommendation as to the future location of the equipment.

Although we did not specifically review security issues related to the production and storage of currency at BEP, the OIG of Treasury plans to address security as part of its ongoing audit efforts and will coordinate as needed with the OIG of the Board.

### **Other Initiatives**

Both agencies have undertaken a number of initiatives to ensure the efficient and economic operation of the currency process. We note that the System is involved in an infrastructure study to review current Federal Reserve cash operations for their long-run efficiency and cost effectiveness and is studying the System's role in coin operations in order to determine if the societal cost can be reduced if the Federal Reserve completely outsources the responsibility for coin distribution. In addition, the System and Treasury are investigating ways to reduce the cost of note production and/or replacement through studies regarding the issue of the \$1 coin and the use of polymer-based currency substrates that have longer useful lives than the current linen/cotton material used in the nation's currency.

### **Conclusion**

Although our audit planning efforts did not identify any currency issues that would benefit from a joint audit at this time, we believe the concept has merit and plan to explore additional areas where the OIGs could work together to provide increased benefit to our agencies. We plan to individually

The Honorable Robert E. Rubin  
The Honorable Alan Greenspan

-4-

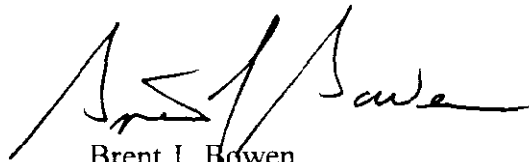
June 4, 1997

monitor the currency activities of the Treasury and the System which may result in future audits at our respective agencies. We would appreciate any feedback you have on our above analysis and would be happy to answer any questions you may have.

Sincerely,



Valerie Lau  
Inspector General  
Department of the Treasury



Brent L. Bowen  
Inspector General  
Board of Governors of the  
Federal Reserve System

Enclosure

cc: Under Secretary for Domestic Finance  
Treasury Assistant Secretary for Management/CFO  
Treasurer of the United States  
Director, Bureau of Engraving and Printing  
Chairman, Committee on Reserve Bank Affairs  
Assistant to the Board for Federal Reserve System Affairs  
Director, Division of Reserve Bank Operations  
and Payments Systems

## Appendix 1

|  | Federal Reserve System  |   | Department of the Treasury   |
|--|---|---|--|
| Function                               | Board of Governors  | Reserve Banks   | Bureau of Engraving and Printing (BEP)   |
| Design                                 | 1. Provides Treasury with input on new designs via the Advanced Counterfeit Deterrence (ACD) group.   | 1. Provides Board with input on new designs (Currency Technology Office).   | 1. Designs currency subject to the approval of the Secretary of the Treasury.  |
| Ordering and printing new currency     | <ol style="list-style-type: none"> <li>1. Provides BEP with the long-range forecast for new currency.</li> <li>2. Consolidates Reserve Banks' annual print orders into a denomination-specific, System print order for submission to Treasury by September.</li> <li>3. Decides and informs Reserve Banks of their new currency allotment.</li> <li>4. Periodically adjusts the print order for upcoming months to adjust for changes in Reserve Banks' needs.</li> </ol> | <ol style="list-style-type: none"> <li>1. Provides Board with forecasts of new currency required to meet depository institutions' needs for the upcoming year.</li> <li>2. Periodically provide Board staff with revised requests for upcoming months to adjust for changes in depository institution needs and to maintain desired currency inventory.</li> </ol>                                      | <ol style="list-style-type: none"> <li>1. Schedules currency production, contracts for all required materials, prints currency, and temporarily stores completed inventory.</li> <li>2. Develops capital plan to ensure adequate capacity to meet future currency needs.</li> <li>3. Determines billing rate and assesses Board for currency costs.</li> </ol>               |
| Shipping and distributing new currency | <ol style="list-style-type: none"> <li>1. Authorizes BEP to release new currency to armored carrier companies for shipment to Reserve Bank districts and branches.</li> <li>2. Contracts and pays for armored carriers.</li> <li>3. Ensures that the System has adequately collateralized issued currency per Federal Reserve Act.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Confirm receipt of all currency shipments.</li> <li>2. Store new currency in vaults until needed.</li> <li>3. Obtain and hold collateral given by depository institutions for new currency issued.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Releases currency to armored carriers for shipment to Reserve Banks per instructions from Board.</li> </ol>  |
| Processing circulated currency         | <ol style="list-style-type: none"> <li>1. Determines quality fitness settings for currency processing machines.</li> <li>2. Sets performance guidelines for Reserve Bank currency operations, such as expected inventory levels.</li> <li>3. Conducts periodic operations reviews of Reserve Bank cash activities.</li> <li>4. Occasionally arranges and pays for shipments of currency between Reserve Banks.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Receive, store, and give deposit credit for currency submitted by depository institutions.</li> <li>2. Operate currency processing machines that: count the circulated currency, reject suspected counterfeit bills for manual inspection, separate fit currency and package it for storage and reuse, and automatically shred any unfit currency.</li> </ol> | <ol style="list-style-type: none"> <li>1. Develops regulations governing Reserve Bank currency verification and the destruction of unfit currency.</li> <li>2. Reviews Reserve Bank performance for compliance with these regulations.</li> <li>3. Processes mutilated notes received from Reserve Banks and directly from individuals, and bills Board for cost.</li> </ol> |

**Appendix 1 - continued**

|                               | <b>Federal Reserve System</b>  |   | <b>Department of the Treasury</b>  |
|-------------------------------|--|---|--|
| <b>Function</b>               | <b>Board of Governors</b>  | <b>Reserve Banks</b>  | <b>Bureau of Engraving and Printing (BEP)</b>  |
| Accounting and record keeping | <ol style="list-style-type: none"> <li>1. Oversees accounting for the issuance and destruction of currency under delegated authority from Treasury.</li> <li>2. Reviews BEP costs for printing and destruction of currency and pays BEP monthly.</li> <li>3. Allocates costs of printing, shipping, and destroying currency to Reserve Banks.</li> <li>4. Manages automated data support systems.</li> </ol> | <ol style="list-style-type: none"> <li>1. Provide daily, weekly, and monthly reports to Board on currency received and shipped, processing activity, and inventory levels.</li> </ol> | <ol style="list-style-type: none"> <li>1. Maintains appropriate internal controls and cost accounting procedures to ensure adequate control over currency costs and an appropriate allocation to the Board vis-a-vis other BEP customers.</li> </ol> |